REMARKS

Claim 14 - 31 are pending.

The specification was objected to for certain typographical errors. The title was objected to for lacking sufficient description. The specification has been amended per the Examiner's appreciated suggestions.

The Examiner had rejected claims 1 - 13. The prior art cited as the grounds for rejection of the claims include Akiba (U.S. Pat. No. 6,414,435), Lee et al. (U.S. Pat. No. 6,436,788). It is noted with appreciation that claim 10 was deemed to recite allowable subject matter.

Nonetheless, it is earnestly believed that aspects of the invention recited in the claims as originally filed are patentable. Claims 1 - 13 have been canceled without prejudice. Claims 14 - 31 are presented which more clearly recite those aspects of the invention which are believed to be patentable over the cited art.

The Invention

The present invention is directed to a plasma display panel. The panel comprises a first electrode and a second electrode between which is disposed a barrier plate, thus defining a cell in the panel. Aspects of the invention, as recited in independent claim 14 for example, include "a barrier plate having a metal electrode [which is] disposed between said first substrate an said second substrate." The metal electrode has "a projection which projects into [a] region of space" which constitutes a cell. Claim 22 similarly recites "said barrier plate comprising a metal electrode having a projection which projects into an interior region of said cell."

Another aspect of the invention, as recited in independent claim 18 for example, is "a projection or a concave [formed] at a position where said metal electrode crosses over said first electrode." These aspects of the invention result in the unexpected effect of lowering the drive voltage thus decreasing power consumption for display discharge, and improves luminous efficiency and luminance level.

The Prior Art

Akiba discloses an AC type plasma display panel technology for improving luminance level and light emission efficiency. Akiba shows in Fig. 1 the panel comprising a three-piece structure of a front plate 3, a back plate 4, and metal partition walls 5. Col. 8, lines 65 - 67.

Lee et al. disclose a field emission display technology. Lee et al. show in Fig. 1 a field emitter 30 which is shaped to concentrate the electric field at the tip. It is known that a tip structure facilitates the generation of high field strength to produce electrons. Fig. 1 shows an extraction grid 38 comprising openings 40 aligned with each emitter 30, each having a radius of about 0.4 microns. Col. 1, lines 49 - 53. A potential applied to the extraction grid produces an electric field between the perimeter of each opening 40 in the extraction grid and its corresponding emitter 30. See generally col. 2, lines 24 - 49.

The Prior Art Does not Render Obvious the Claimed Invention

The Examiner correctly notes that Akiba does not show a barrier plate comprising a metal electrode having "a projection which projects into [a] region of space" which constitutes a cell. However, with respect, it is believed the Examiner has erred by asserting that Lee et al. teach a metal electrode having projections into a cell.

Each pixel in a plasma panel produces light by causing gas in the pixel to enter the plasma phase. Ultraviolet light produced by the plasma interacts with a fluorescent substance in the pixel to produce light of a particular color, depending on the substance. In order to prevent the gas in an adjacent pixel from inadvertently entering the plasma state, a barrier plate is provided between pixels.

Lee et al. describe a field emission device. In Fig. 1, Lee et al. show an emitter 30 and an opposing conductive faceplate 20. In a field emission device, electrons produce by the emitter 30 are accelerated to the conductive faceplate, which includes a luminescent layer 26. The region between the emitter and the faceplate is typically a vacuum. Field emitter display devices do not require "a barrier plate" between pixels. Therefore, despite whatever Lee et al. disclose, they cannot be fairly interpreted as

teaching the provision of projections on a barrier plate, since their device does not include a barrier plate. Lee et al. therefore do not suggest modifying the barrier plate of Akiba to have "a projection which projects into [a] region of space" which constitutes a cell.

Fig. 1 of Lee et al. show an extraction grid 38 having openings 40 aligned with each emitter 30. The openings in the extraction grid do not constitute projections into an interior region of a cell. Instead, each opening is aligned with respect to an emitter; i.e., an electrode. The extraction grid 38 is used to create an electric field by which electrons can be emitted from the emitter 30. The opening 40 allows the electrons to accelerate to the opposing face plate 20 in the direction indicated by the direction arrow 36. Thus, if Lee et al. suggest any modification to Akiba at all, it would be to provide some structure around the electrode(s) (e.g., 9-1, 9-2, Fig. 1) of Akiba. Lee et al. do not suggest modifying Akiba to provide a "barrier plate comprising a metal electrode having a projection which projects into an interior region of said cell."

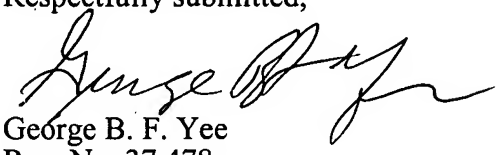
For at least the foregoing reasons, the references to Akiba and Lee et al. do not teach or suggest the invention as recited in the pending claims.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



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